

## TENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 06855PC	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/CH 03/00379	International filing date (day/month/year) 12/06/2003	(Earliest) Priority Date (day/month/year) 14/06/2002
Applicant  MILLENIUM BIOLOGIX AG		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

IDENTIFICATION OF SPECIFIC HUMAN CHONDROCYTE GENES AND USE THEREOF

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CH 03/00379

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-12

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/03/00379

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>BENZ ET AL.: "Molecular analysis of expansion, differentiation, and growth factor treatment of human chondrocytes identifies differentiation markers and growth-related genes"</p> <p>BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, vol. 293, no. 1, 26 April 2002 (2002-04-26), pages 284-292, XP002256352 the whole document</p> <p>----- -/--</p>	1-12



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## ° Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

7 October 2003

Date of mailing of the international search report

16. 01. 2004

Name and mailing address of the ISA

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Bort, S

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/03/00379

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	STOKES ET AL.: "Assessment of the gene expression profile of differentiated and dedifferentiated human fetal chondrocytes by microarray analysis" ARTHRITIS AND RHEUMATISM, vol. 46, no. 2, February 2002 (2002-02), pages 404-419, XP002253145 the whole document	1-12
X	----- SCHNABEL ET AL.: "Dedifferentiation-associated changes in morphology and gene expression in primary human articular chondrocytes in cell culture" OSTEOARTHRITIS AND CARTILAGE, vol. 10, no. 1, January 2002 (2002-01), pages 62-70, XP002253146 the whole document	1-12
X	----- MARLOVITS ET AL.: "Differential gene-expression of human articular chondrocytes and human fibroblasts in two- and three-dimensional cell culture" FASEB JOURNAL, vol. 15, no. 4, 7 March 2001 (2001-03-07), page A34, XP008021552 the whole document	1-12
X	----- ISLAM ET AL.: "Expression profile of protein tyrosine kinase genes in human osteoarthritis chondrocytes" OSTEOARTHRITIS AND CARTILAGE, vol. 9, 2001, pages 684-693, XP002253148 the whole document	1-12
A	----- KURELLA ET AL.: "DNA microarray analysis of complex biologic processes" J AM SOC NEPHROL, vol. 12, 2001, pages 1072-1078, XP002253149 the whole document	

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-12

Invention 1

A method for the identification of tissue/cell specific marker genes; a method for the determination of a particular disease state or developmental status or the physiological potential of cell/tissue; and a method for the determination of characteristic gene expression profiles for clinical use  
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2. claims: 13-29 (all partially)

Inventions 2-468

An array comprising a human chondrocyte specific gene; a kit comprising it; and the use of said gene or kit for in vitro diagnostic of mammals, in particular humans,

wherein said human chondrocyte specific gene is that corresponding to the Pubmed accession numbers listed in table II:

-for invention 2: AA283693

-for invention 3: AA845156

-for inventions 4-468: R52548-AA504477  
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